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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/740,075	12/17/2003	Perry F. Renshaw	04843/117002	1400

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EXAMINER	
CRANE, LAWRENCE E	
ART UNIT	**PAPER NUMBER**
1623	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/740,075	RENSHAW ET AL.	
	Examiner	Art Unit	
	L. E. Crane	1623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *July 23, 2007 (amdt)*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5,7-20 and 22-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5,7-20 and 22-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *07/23/2007.*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claims **4 and 6** have been cancelled, additionally claims **21 and 27-30** have been cancelled, claims **1, 12, 17 and 22** have been amended, the disclosure has not been amended, and no new claims have been added as per the amendment filed November 3, 2006. No supplemental Information Disclosure Statements (IDSs) have been filed as of the date of this Office action.

Claims **1-3, 5, 7-20 and 22-26** remain in the case.

Note to applicant: when a rejection or objection refers to a claim **X** at line y, the line number is determined from the claim as previously submitted by applicant in the most recent response including ~~lines deleted by line through~~.

Claims **1-3, 5, 7-20 and 22-26** are rejected under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one of ordinary skill in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention; the scope is excessive in view of the disclosed enabling exemplifications.

Examiner has inspected the disclosure and Figures 1 and 2, and finds therein what appears to be data concerning the reactions to the administration of CDP-choline by a single human host, apparently a 33 year old subject who appears to be addicted to or habituated to, alcohol, cocaine and tobacco and who consumes caffeinated beverages, a possible additional habituation. Applicant has claimed broadly the treatment of sleep deprivation in all human and mammalian hosts, but has not provided sufficient exemplifying data to support such a broad scope of subject matter. Examiner suggests that applicant needs to establish individually the effective treatment of specific sleep related disease conditions (insomnia, narcolepsy, etc. etc.) by testing appropriate groups of subjects (night shift workers, interns doing 24 hour stints, etc.). Alternatively examiner suggests applicant may elect to demonstrate the effective treatment of specific-drug addicted hosts who suffer from sleep deprivation(s). In any event the instant data set is simply inadequate to support the instant patent claims because of the lack of showing that the claimed effects of CDP-choline administration are common to a reasonable number of similarly situated hosts in need of such treatment.

Because applicant has provided some data, applicant may elect to supply additional data using a declaration under 37 C.F.R. §1.132. Alternatively applicant's counsel may advise applicant concerning other strategies for maintaining the instant subject matter under prosecution until such time that sufficient data has been supplied to adequately support grant of a patent claim or claims.

Applicant's arguments filed July 23, 2007 have been fully considered but they are not persuasive.

Applicant has argued that the *Ex parte Balzarini et al.* decision in its first opinion is directed to rejections under both 35 U.S.C. §101 for lack of utility and under 35 U.S.C. §112, first paragraph, for lacking enablement: see the decision at page 1894, first column.

Applicant then requests clarification of the instant rejection, asserting that the rejection appears to be a utility rejection , not an enablement rejection. Examiner respectfully disagrees. The rejection does not state that the claims lack utility, only that a single data source, the testing of a single host multiply compromised by several different dependencies, does not provide a sufficient basis to properly enable the claims as presented. For example, if any compuond administered to the tested host has an effect, which dependency is being treated effectively? Or is some combination of the multiple possible combinations of dependencies being effectively treated? Without additional data wherein single problem dependencies or other causes are treated in isolation, figuring out what the data provided actually means remains impossible. Therefore, examiner continues to consider the instant claimed subject matter lacking in sufficient enabling support, a scope of enablement problem not a utility problem, and a problem that examiner thinks can only be rectified by submission of additional relevant test data.

Applicant than complains that the instant Office action appears to have ignored the Wands factors. Examiner respectfuly disagrees, noting that there are two separate rejections under 35 U.S.C. §112, first paragraph, and that the second of these provides a complete scope of enablement analysis based on consideration of the Wands factors.

Applicant then criticizes the submission of additional data (the Pekkanen reference), data that applicant analyzes in a manner that differs from Examiner's analysis. Examiner also notes that the Pekkanen reference was cited in response to applicant's arguments in response to a

rejection under 35 U.S.C. §112, second paragraph, and therefore no response to applicant's views are deemed to be appropriate in this response.

Claims **1-3, 5, 7-20 and 22-26** are rejected under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one of ordinary skill in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The fundamental issue here is whether practicing the full scope of the instant invention is possible without undue experimentation. As provided for in *In re Wands* (858 F.2d 731, 737; 8 USPQ 2d 1400, 1404 (Fed Cir. 1988) the minimum factors to be considered in determination of whether a conclusion of "undue experimentation" is appropriate are as follows:

A. The breadth of the claims: the breadth of many of the claims is excessive because of the presence of generic terms including "treating a sleep disorder," and "increasing cognitive function."

B. The nature of the invention: the invention is directed to treatment of sleep or sleep-related disorders including those disorders caused by drug addictions.

C. The state of the prior art: the administration of CDP-choline is associated in some prior art references with the effective amelioration of insomnia, particularly in elderly hosts. See the prior art-based rejections below.

D. The level of one or ordinary skill: the level of the ordinary practitioner is variable, because the administration of CDP-choline is known to be effective in some hosts, but the remainder of the claimed active ingredients have not been shown herein to have similar activities.

E. The level of predictability in the art: the art of treating sleep disorders is highly variable in its predictability because of the large array of different causes or circumstances under which it is observed to occur, both known (drugs, shift work, etc.) and unknown (aging, physical injury, etc.).

F. The amount of direction provided by the inventor: referring to Figures 1 and 2, it appears that applicant has only tested the administration of CDP-choline on a single human

host who is apparently afflicted with multiple chemical dependencies including to alcohol, cocaine and caffeine.

G. The existence of working examples: there appears to be only a single working example and no clear indication discernable by examiner concerning what particular sleep disorder or disorders where being treated in this particular host.

H. The quantity of experimentation needed to make or use the invention based on the content of the disclosure is deemed to be excessive in light of the indefiniteness and functionality of the claims and because the exemplary evidence is so limited in quantity, and consequently the minimum necessary guidance concerning various different active ingredients and their application to various different sleep disorder treatments, is simply absent.

Applicant's arguments filed July 23, 2007 have been fully considered but they are not persuasive.

Applicant is referred to the response following the rejection immediately preceding.

Claims **1-2, 12-15, 17, 19, 22, 27 and 28** are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim **1** at line 3 the term "compound comprising" is indefinite because the subsequent list of compounds are all named as separate compounds rather than substituent moieties of a larger molecular species, and because the larger molecular species implied by the term "comprising" (including) is not subsequently defined thereby leaving the metes and bounds of the claimed subject matter incomplete. See also claims **12, 15, 17 and 22** wherein the same problem reoccurs.

Applicant's arguments filed July 23, 2007 have been fully considered but they are not persuasive.

Applicant argues that "definiteness does not require that each chemical entity encompassed by a claim be described in complete molecular detail, but only such detail as required for one skilled int he art to determine the scope of the claims." Applicant further argues that ".. one skilled in the art would understand the scope of 'a compound comprising

cytidine, cytidine monophosphate (CMP) ...' as recited in the instant claims." Examiner respectfully disagrees. The term "comprising" means -- including -- and therefore implies that the compounds listed in the claims following the term "compound comprising" are by implication not the only compounds being claimed. Examiner also notes that the term "comprising" also occurs before the term noted and therefore applicant is not being unfairly denied the breadth of claimed subject matter necessary to exclude infringers. The rejection is in effect asking for well defined metes and bounds for the set of claimed active ingredients. Exmainer respectfully suggests amendment of the noted term to read -- compound consisting of -- or the like.

In claim **12** at lines 4-5, the term "is not compromised by an existing physical condition" is an improper negative limitation because the particular "existing physical limitation[s]" have not been specified in the claim.

Applicant's arguments filed July 23, 2007 have been fully considered but they are not persuasive.

Applicant argues that negative limtations are permitted but fails to include the proviso that these limitations must be well defined. Applicant's negative limitations have failed to clearly define with particularity what is being excluded. In line with applicant's statement ("For the record") at line 3 of [age 10 of the response, Examiner respectfully requests amendments to further define the included negative limitations according to this standard, or other appropriate actions.

In claim **13** the term "said sleep disorder is caused by a substance abuse disorder" lacks proper antecedent basis. Examiner suggests introduction of the term -- further comprising -- in order to effectively address this expansion of the subject matter definition of claim **12**. Said term also renders the claim incomplete because the particular "substance abuse disorder" has not been specified. See also claim **23** in re its dependence from claim **22**.

Applicant's arguments filed July 23, 2007 have been fully considered but they are not persuasive.

Applicant appears to be arguing that "caused by substance abuse" is somehow hidden within the terms that define claim **12**. Examiner does not agree that this term resides therein.

Therefore, examiner renews the previous request to introduce the term of art -- further comprising-- into the instant claim as an amendment.

In claim **19** the term "not caused by a substance abuse disorder" renders the claim incomplete because the particular substance abuse disorder(s) has(have) not been specified.

Applicant's arguments filed July 23, 2007 have been fully considered but they are not persuasive.

See the response to the rejection of claim **12** above.

The following rejections are advanced for the first time in this Office action.

In claim **1** at lines 1 and lines 7-8, the instant claims appears to be self-contradictory because "normalizing the sleep/wake cycle in a mammal" has been alleged in the claim to not include "insomnia." According to Stedman's Medical Dictionary (27th Ed., Lippincott, Williams & Wilkins, Pugh et al. (eds.), 2000, Philadelphia, PA, see pages 906-907; PTO-892 ref. **X**), "insomnia" is defined as

> "inability to sleep in the absence of external impediments ... during the period when sleep would normally occur; may vary in degree from restless or disturbed slumber to a curtailment of the normal length of sleep or to absolute wakefulness."

In addition applicant is referred to **Beers et al.** (Merck Manual; PTO-892 ref. **W**) wherein the subject of "insomnia" is dealt with in greater detail including medical advise concerning substances well known to be effective in inducing sleep. Examiner does not understand how applicant can justify or otherwise explain the obvious contradiction in terms presented by applicant in claim **1**, and the same or similar contradictions in the remaining independent claims **12, 17 and 22**. The unanswered question is "How can one of ordinary skill effect "normalizing the sleep/wake cycle" as required by the preamble of claim **1** and <u>not</u> treat "insomnia" as defined by these two references but as required by the terminal limitation of claim **1**?

Applicant's arguments with respect to claims **1, 12, 17 and 22** have been considered but are moot in view of the new grounds of rejection. This new ground of rejection was necessitated by applicant's amendment.

The non-statutory double patenting rejection, whether of the obviousness-type or non-obviousness-type, is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent. *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969); *In re Vogel,* 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Van Ornam,* 686 F. 2d 937, 214 USPQ 761 (CCPA 1982); *In re Longi,* 759 F.2d 887, 225 USPQ 645 (Fed. Cir 1985); and *In re Goodman,* 29 USPQ 2d 2010 (Fed. Cir. 1993).

A timely filed terminal disclaimer in compliance with 37 C.F.R. § 1.321(b) and (c) may be used to overcome an actual or provisional rejection based on a non-statutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 C.F.R. §1.78(d).

Effective January 1, 1994, a registered attorney or agent or record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 C.F.R. §3.73(b).

Claims **1-3, 5 and 7-29** are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims ***1-16*** of U. S. Patent No. **6,103,703** (PTO-1449 ref. **A10**). Although the conflicting claims are not identical, they are not patentably distinct from each other because claimed the methods of treatment, "increasing cognitive functions in a sleep deprived mammal, treatment of insomnia, or other cognitive dysfunction" versus "preventing or ameliorating a stimulant induced disorder," and wherein the alleged active ingredients are selected from a cytidine- or a 2'-deoxycytidine-5'-nucleotide, are directed to substantially overlapping subject matter.

Applicant's arguments filed July 23, 2007 have been fully considered but they are not persuasive.

Applicant argues that the **Renshaw et al. '703** reference is directed to "preventing or ameliorating a stimulant-induced disorder" but fails to further include the step of administering "a cytidine-containing compound" (claim *1*) or in particular "CDP-choline" (claim ***15***). Noting that reasonable readings of the instant application and the **'703** patent support the conclusion that "a sleep disorder" is properly included within the metes and bounds of the term "stimulant-induced disorder," examiner concludes that the standard enunciated by applicant ("the present

claims are an obvious variant of the claims of Renshaw") has been met, and therefore has maintained the instant grounds of rejection.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. §102 that form the basis for the rejections under this section made in this Office action:

"A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent."

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States."

(e) the invention was described in

(1) an application for patent described under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application filed under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a)."

Claims **1-3, 5, 7-14 and 16-20** are rejected under 35 U.S.C. §102 (**b**) as being anticipated by **Fernandez** (PTO-1449 ref. **C47**).

Applicant is referred to page 1073 of the cited reference at column 1, lines 11-17 of the "Summary," and particularly to line 15 wherein the administration of CDP-choline to treat insomnia is specifically taught. See also page 1076, column 2, next to last line and associated explanatory text.

Applicant's arguments filed July 23, 2007 have been fully considered but they are not persuasive.

Examiner notes applicant's arguments and incorporates herein by reference all of examiner's arguments made in response already of record in all previous Office actions.

Applicant claims "normalizing the sleep/wake cycle of a mammal [in need thereof]," but then amends the claims and also argues that disorders of the "sleep/wake cycle" can not

include "insomnia." It seems that applicant is attempting to "have the cake and eat it too," a circumstance addressed above in re the issue of confusion and consequential indefiniteness.

Applicant argues that the amendment at the end of the claim that reads "wherein said mammal is not suffering from insomnia" excludes the cited prior art. Examiner respectfully disagrees. A non-normal "sleep-wake cycle" is by definition "insomnia" (see above wherein a definition of "insomnia" is quoted from a well known medical dictionary and wherein applicant has been also referred to the Merck Manual (PTO-892 ref. **W**).

The sole step in the instant claimed process is the administration of an active ingredient. The cited prior art discloses the administration of an instant claimed active ingredient to treat a variety of symptoms only one of which has been excluded by the noted amendment.

Therefore, the instant amendment has in effect converted the instant claim into a claim that only defines a process step but fails to define a preamble, the stated preamble being in effect deleted in its entirety by the newly introduced amendment. For this reason and because the prior art continues to disclose active ingredients that overlap with the instant alleged active ingredient list, the instant rejection remains valid and therefore this rejection has been repeated.

Claims **17, 18 and 20** are rejected under 35 U.S.C. §102 (**e**) as being anticipated by **Wurtman et al. '415** (PTO-1449 ref. **A15**).

Applicant is referred to the **'415** reference at paragraph 0025, at paragraphs 0052-0057, and claims ***7 and 8-11*** wherein the administration of citicoline (CDP-choline) is disclosed to effectively treat cognitive dysfunctions including insomnia, motor coordination, and memory impairment.

Applicant's arguments filed July 23, 2007 have been fully considered but they are not persuasive.

Applicant argues that the rejection is moot because the amendment has excluded "insomnia." Examiner respectfully disagrees. The sole process step is the administration of "a compound." This step continues to be anticipated and the instant reference remains valid because the reference teaches the treatment of other symptoms including "memory impairment," an effect that applies to all hosts regardless of whether they suffer from insomnia

or not. See also column 1 of page 5 of the **'415** reference wherein the treatment of cognitive impairment, before or after physical injury, has been disclosed numerous times. Alternatively, because the sole process step remains unchanged, the effect claimed is deemed to have been inherent in the prior art and therefore the instant claims anticipated. Therefore the instant rejection has been maintained.

Claims **1-3, 5, 7-14, 16-20 and 22-26** are rejected under 35 U.S.C. §102 (e) as being anticipated by **Ferrer International '288** (PTO-1449 ref. **B9**).

Applicant is referred to page 5 wherein the administration of pharmaceutical compositions including CDP-choline are disclosed to effectively treat a variety of symptoms related to alcoholism and withdrawal therefrom including insomnia and disorientation.

Applicant's arguments filed July 23, 2007 have been fully considered but they are not persuasive.

As applicant notes, insomnia has been excluded by amendment, but applicant has not excluded "disorientation" and other symptoms have not been excluded. Therefore, the instant claims remain anticipated and the rejection has been maintained.

Claim **15** would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. §112 set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Papers related to this application may be submitted to Group 1600 via facsimile transmission (FAX). The transmission of such papers must conform with the notice published in the Official Gazette (1096 OG 30, November 15, 1989). The telephone number to FAX (unofficially) directly to Examiner's computer is 571-273-0651. The telephone number for sending an Official FAX to the PTO is 571-273-8300.

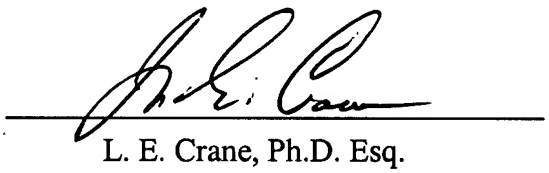
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner L. E. Crane whose telephone number is **571-272-0651**. The examiner can normally be reached between 9:30 AM and 5:00 PM, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. S. Anna Jiang, can be reached at **571-272-0627**.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group 1600 receptionist whose telephone number is **571-272-1600**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status Information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see < http://pair-direct.uspto.gov >. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at **866-217-9197** (toll-free).

LECrane:lec
08/04/2007



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